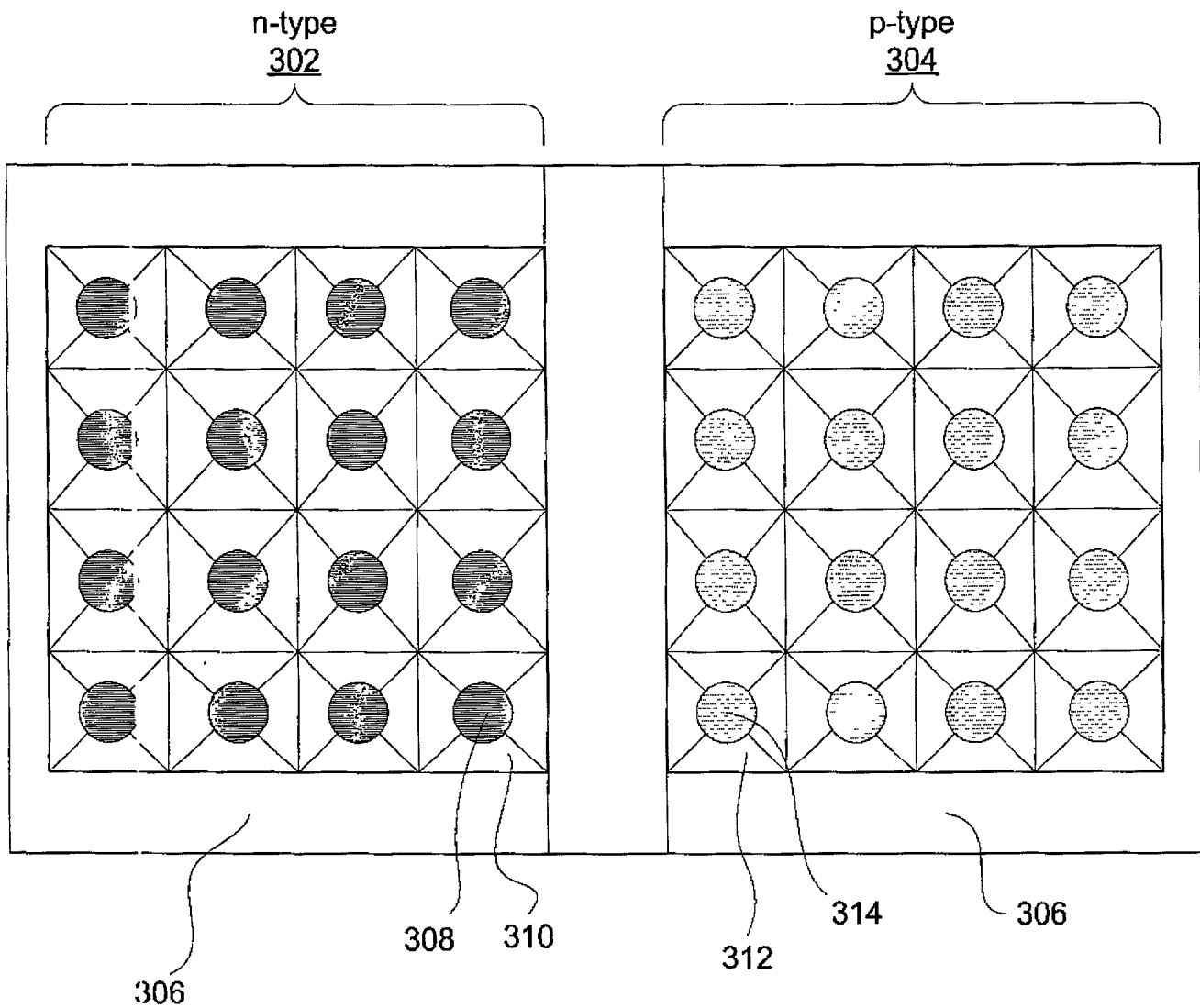


100
Figure 1

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(Prior Art)

FIG. 3 is a schematic diagram of an integrated quantum cold point cooler 300. The device includes an n-type region 302 and a p-type region 304. The n-type region 302 contains a grid of quantum dots 308, and the p-type region 304 contains a grid of quantum dots 312. The quantum dots are arranged in a 4x4 grid in each region. The regions are separated by a central barrier 310. The entire device is enclosed in a frame 306.



300

Figure 3

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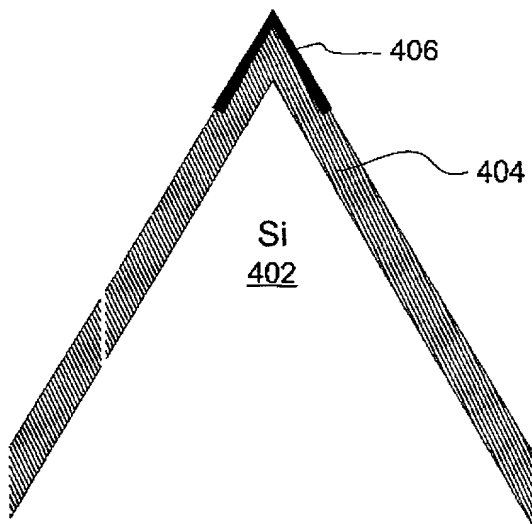


Figure 4A
AUS920010314US1

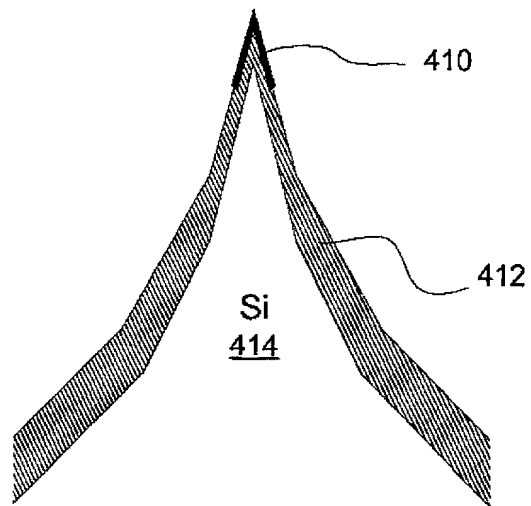


Figure 4B
AUS920020314US1

Figure 4

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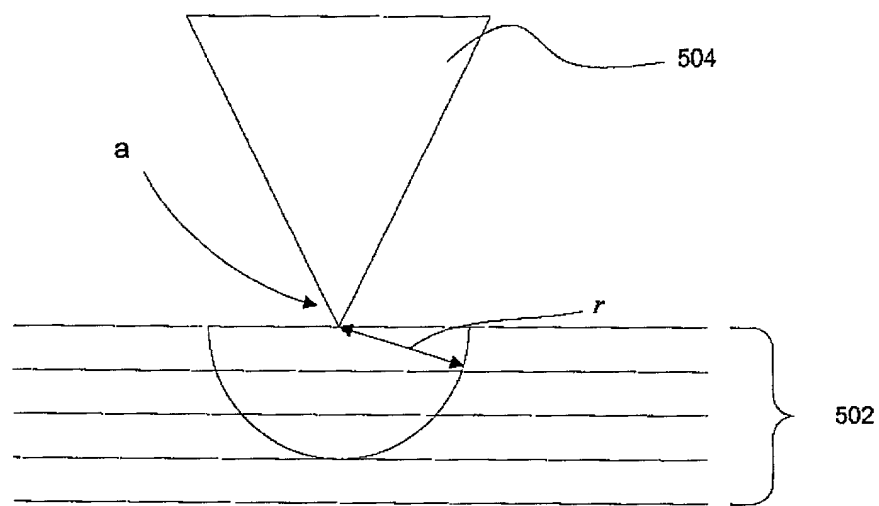
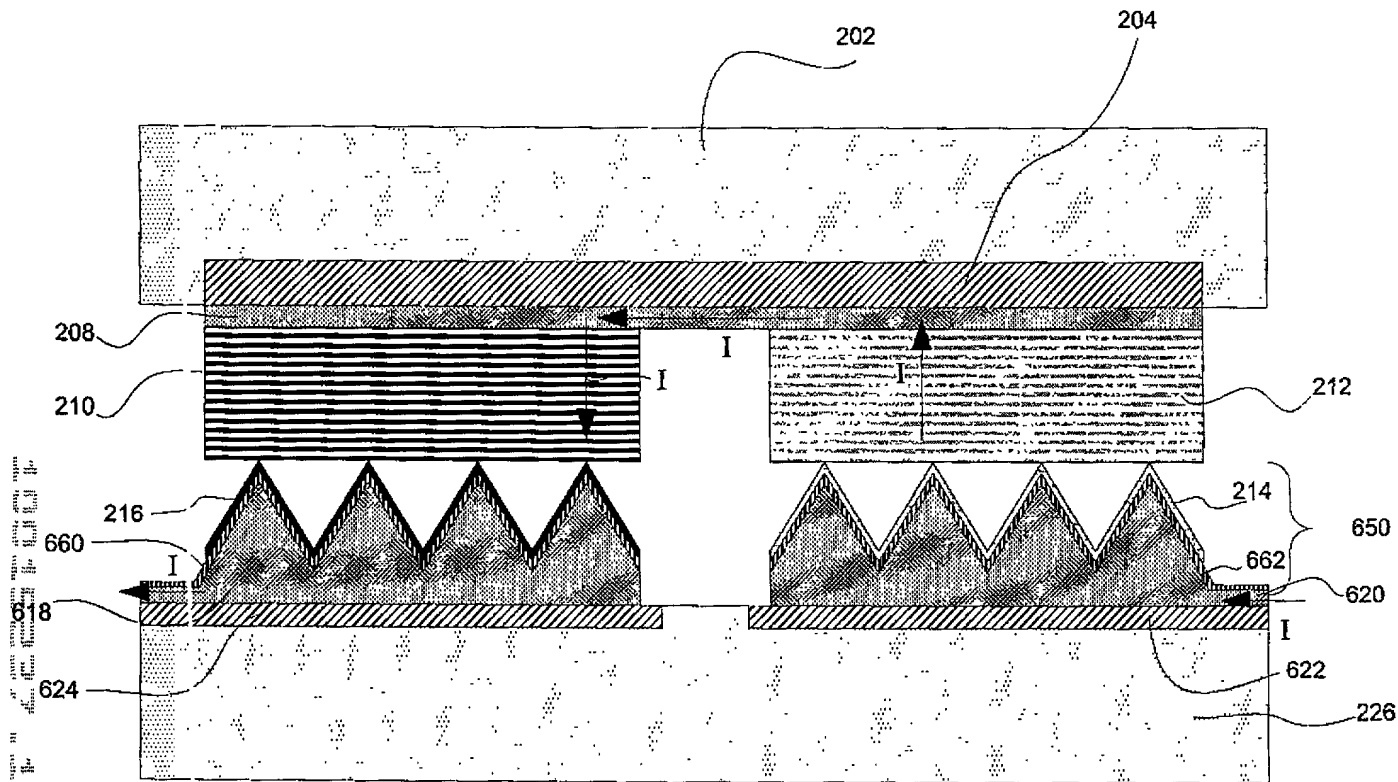


Figure 5

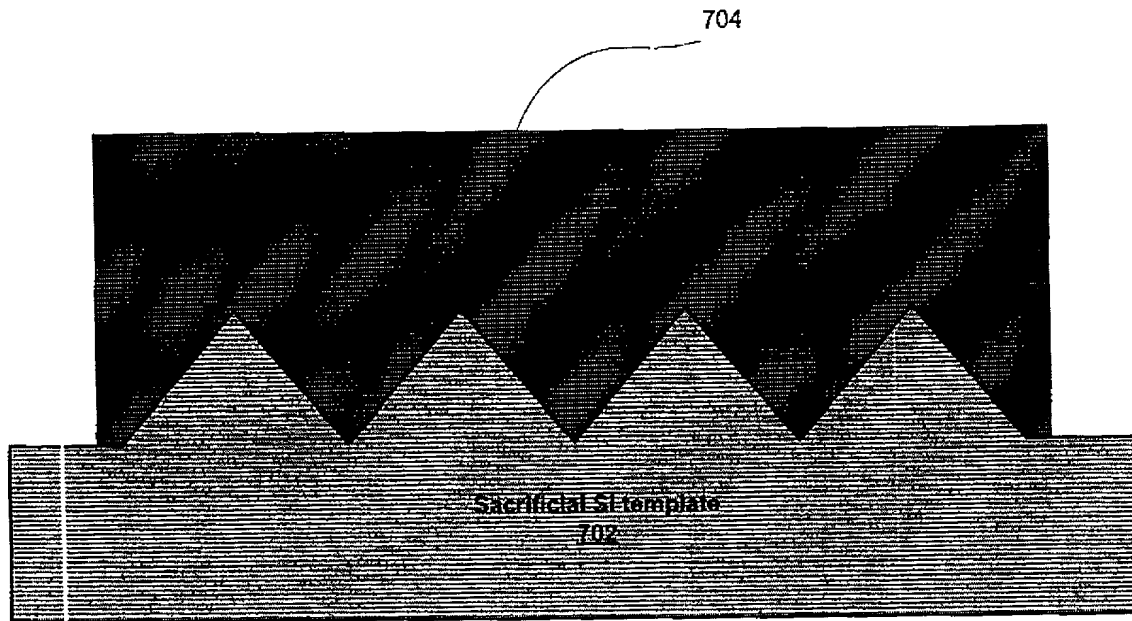
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600
Thermoelectric Cooler

Figure 6

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Inverse Templates

Figure 7

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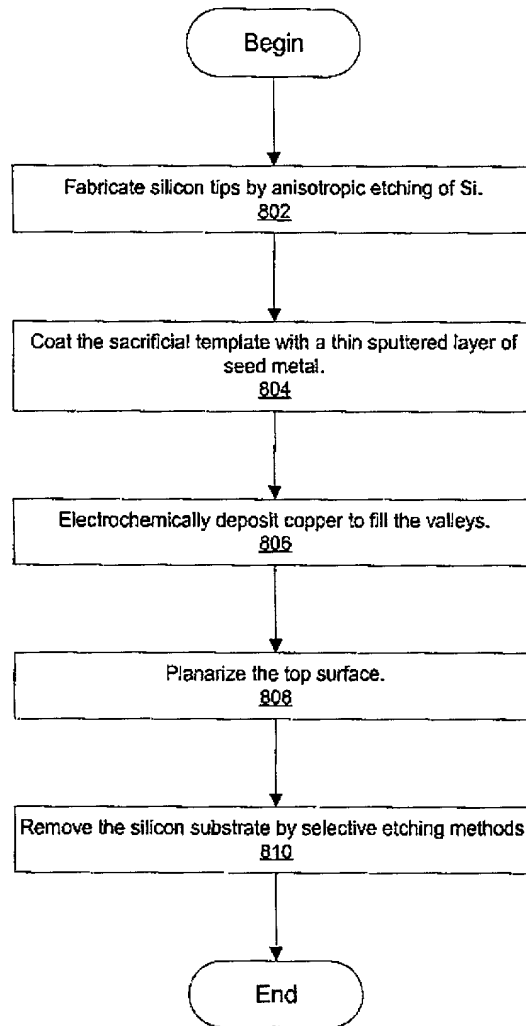
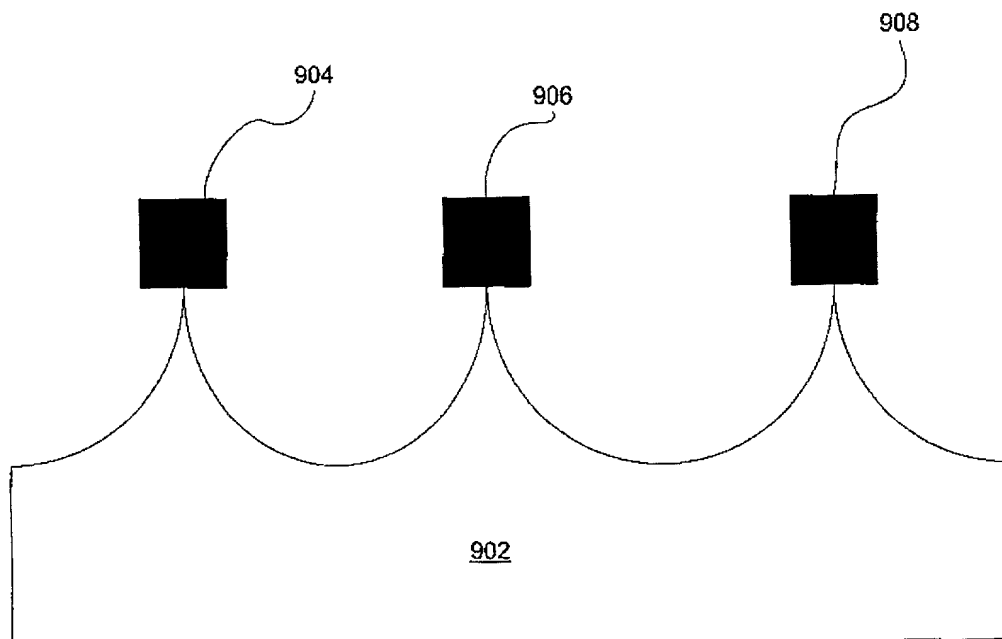


Figure 8



Electrochemical etching of patterned copper

Figure 9

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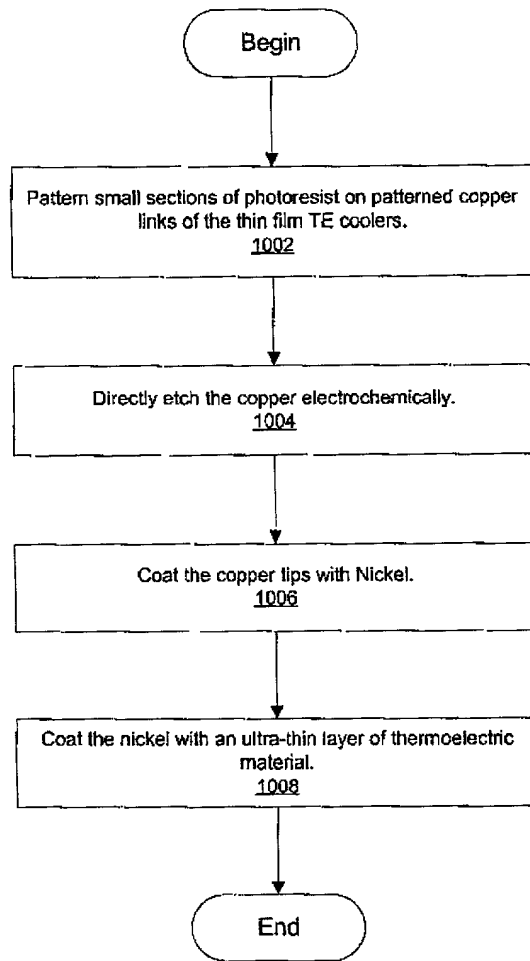


Figure 10

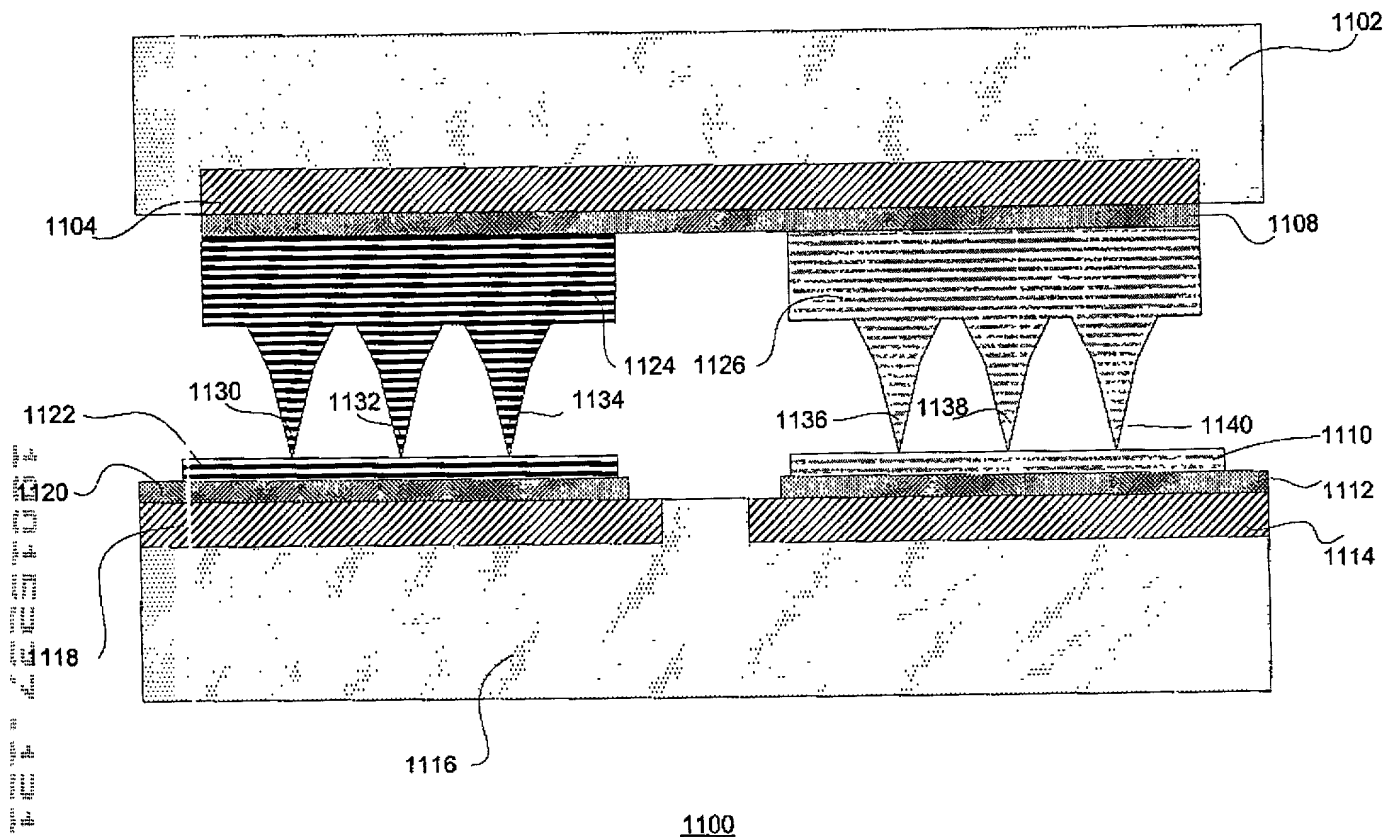


Figure 11

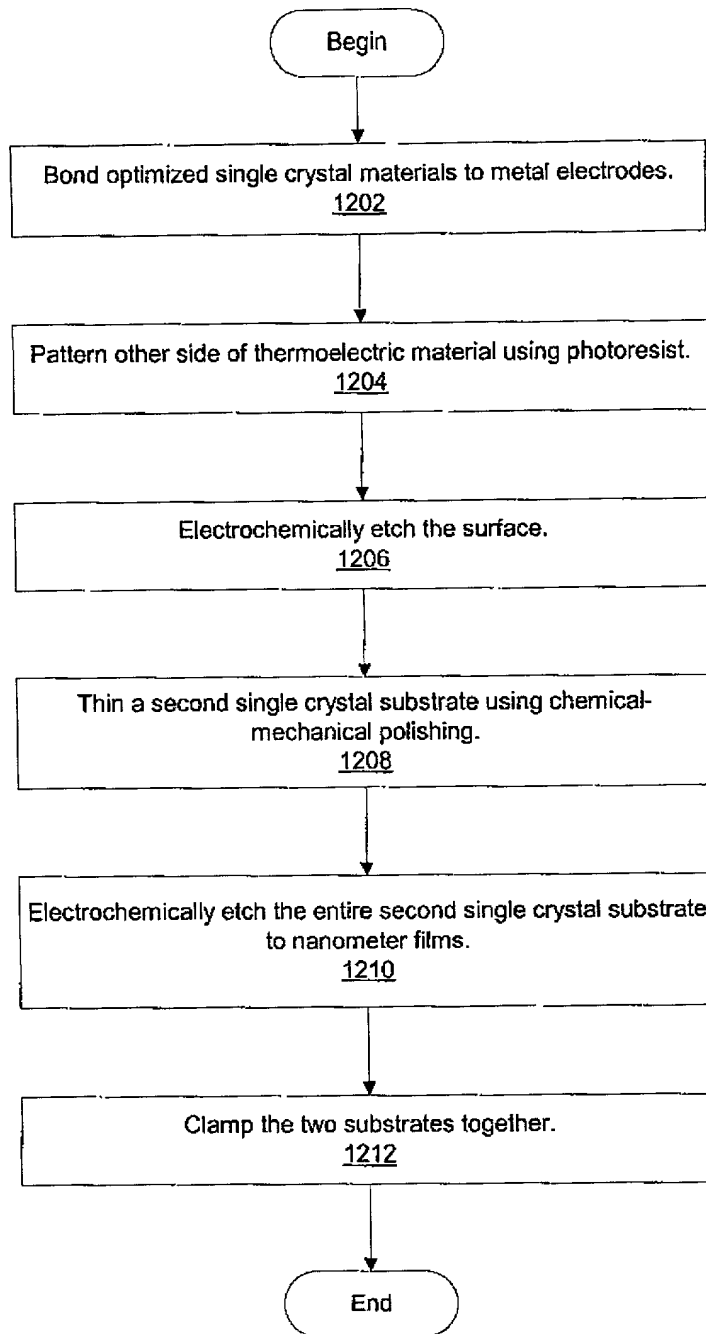


Figure 12

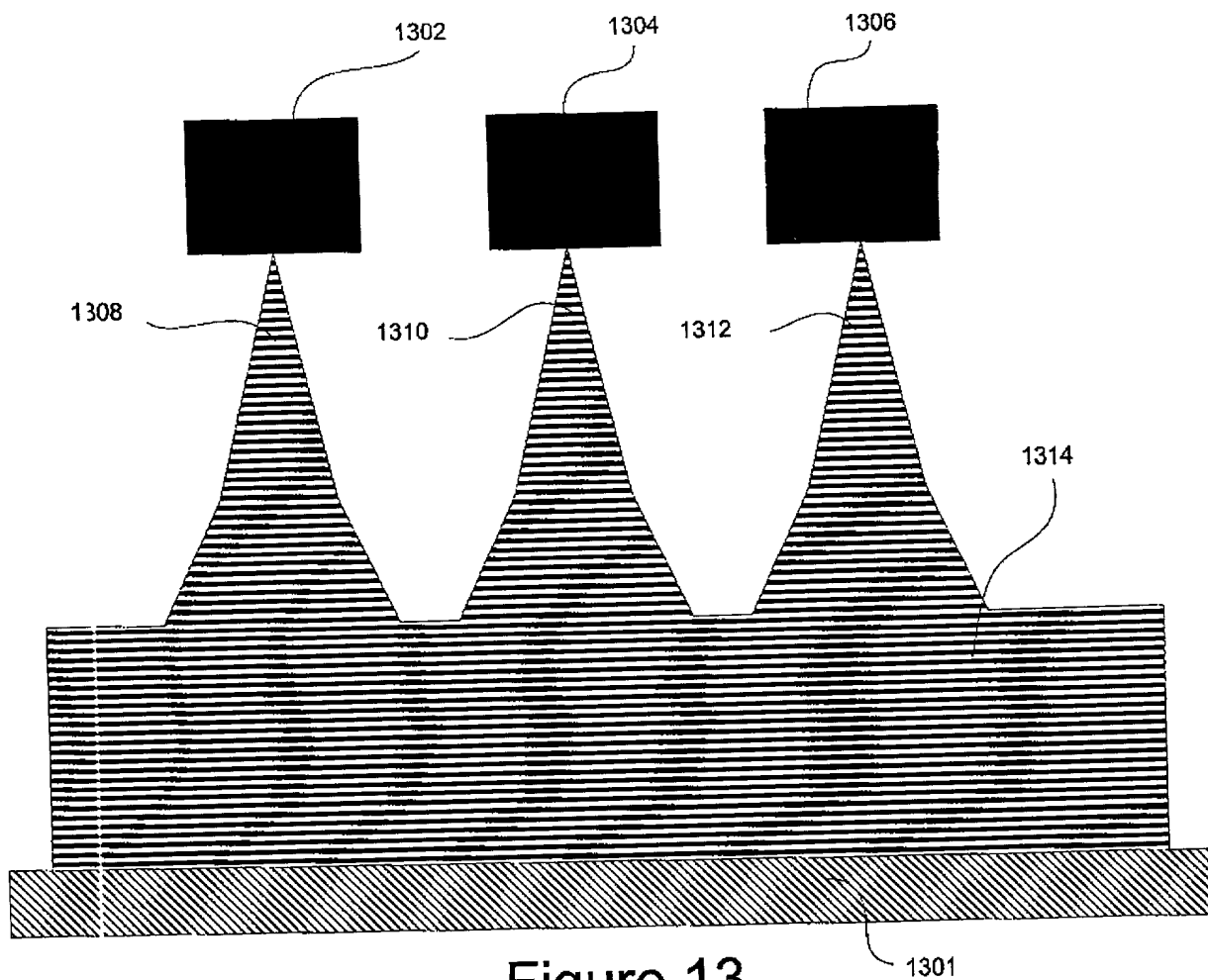


Figure 13

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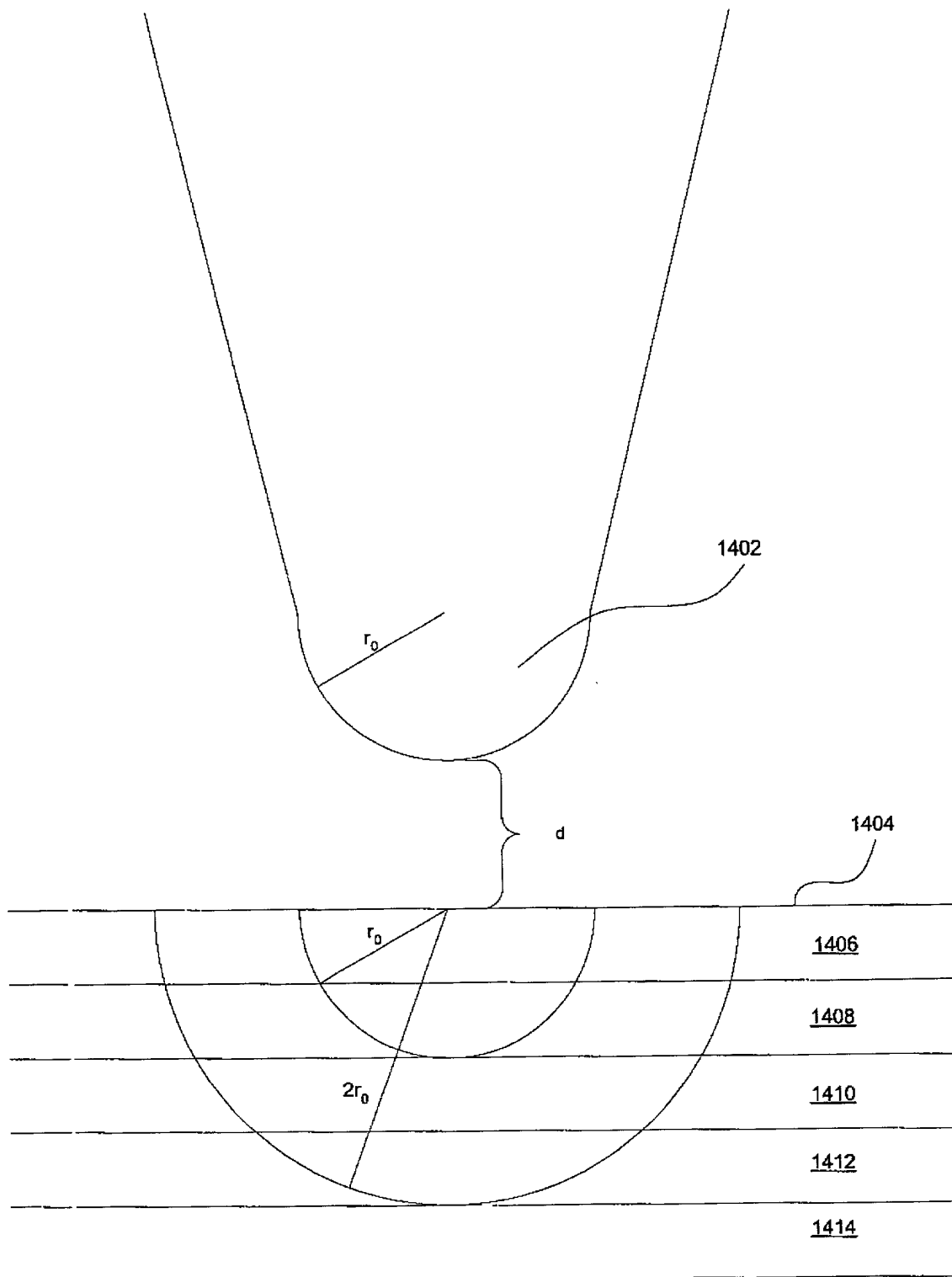
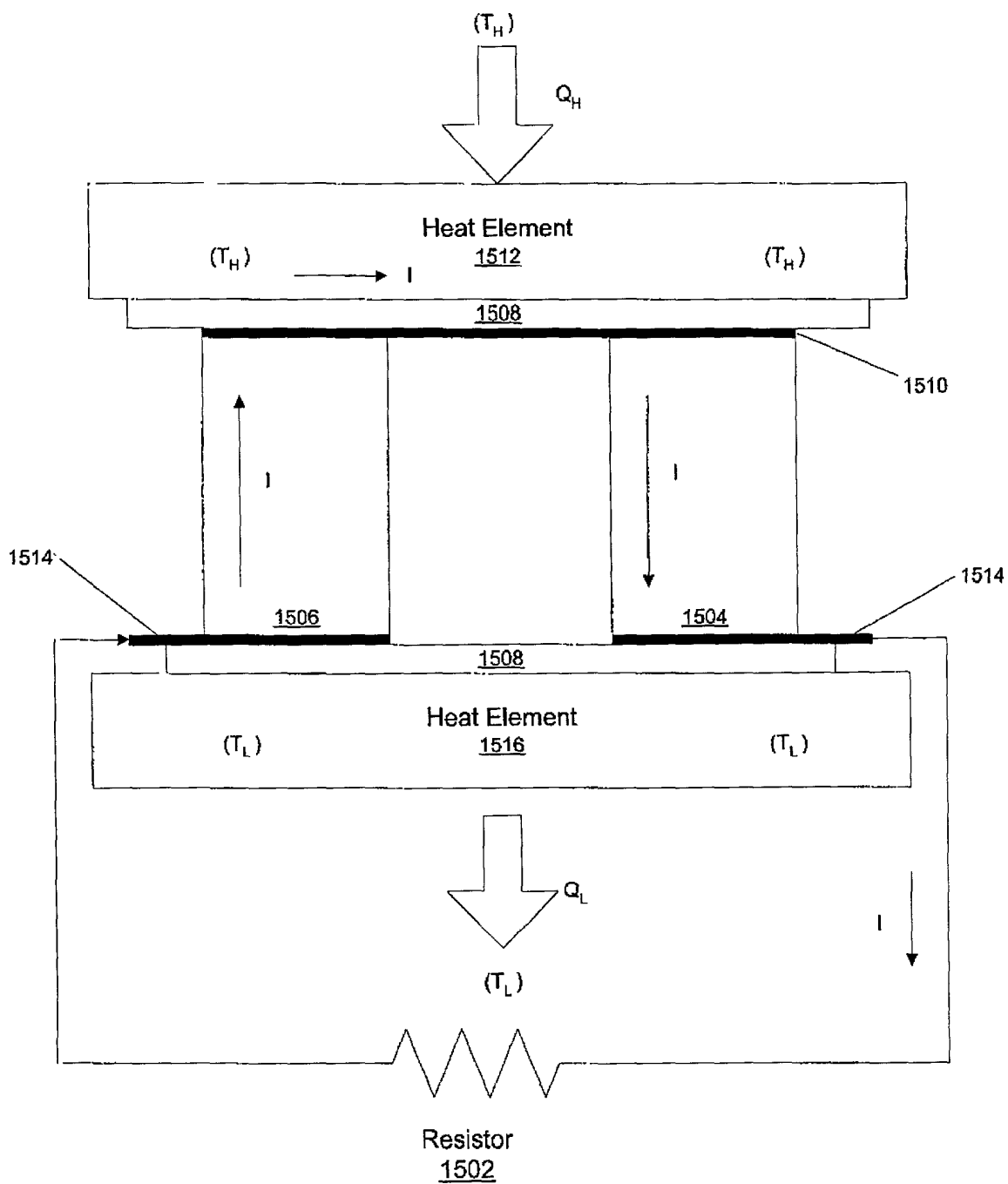


Figure 14



1500
Figure 15

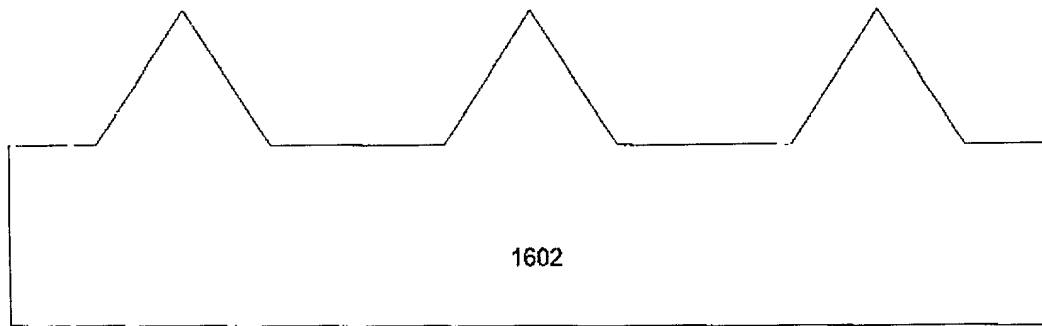


Figure 16A

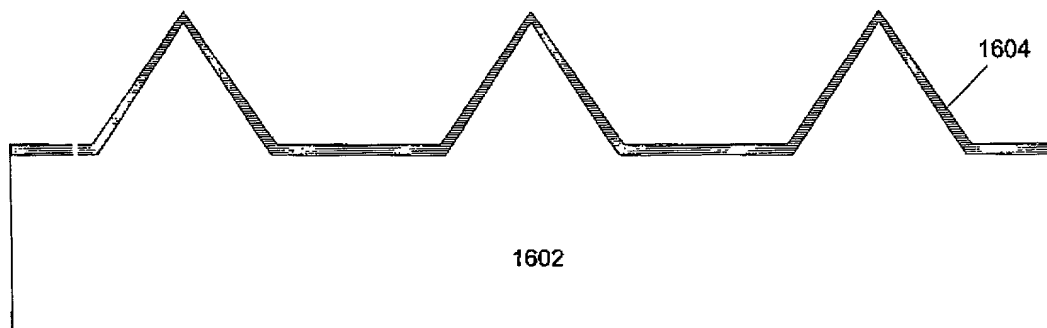


Figure 16B

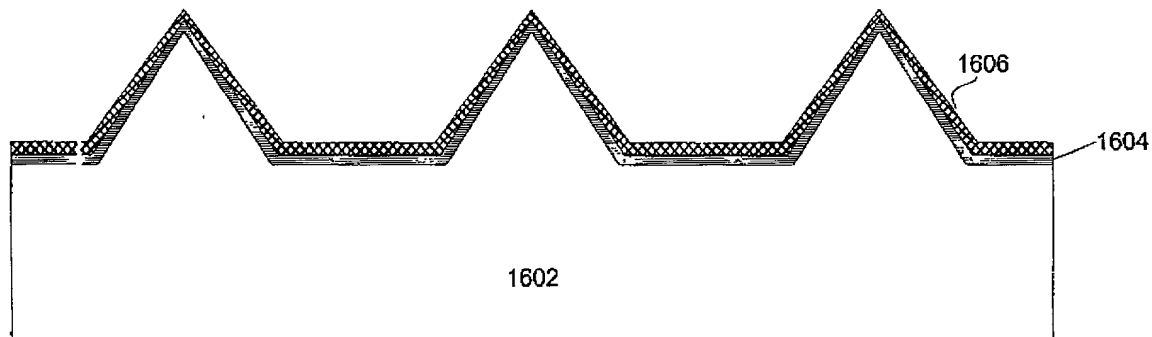


Figure 16C

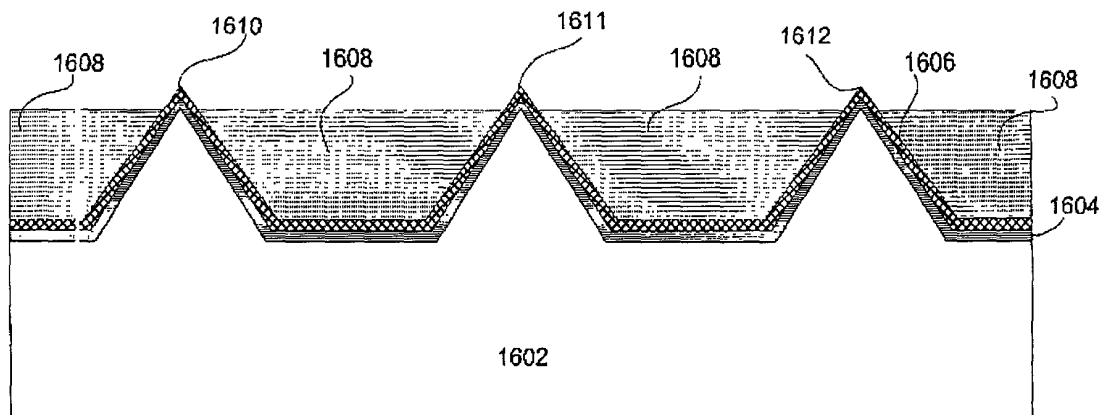


Figure 16D

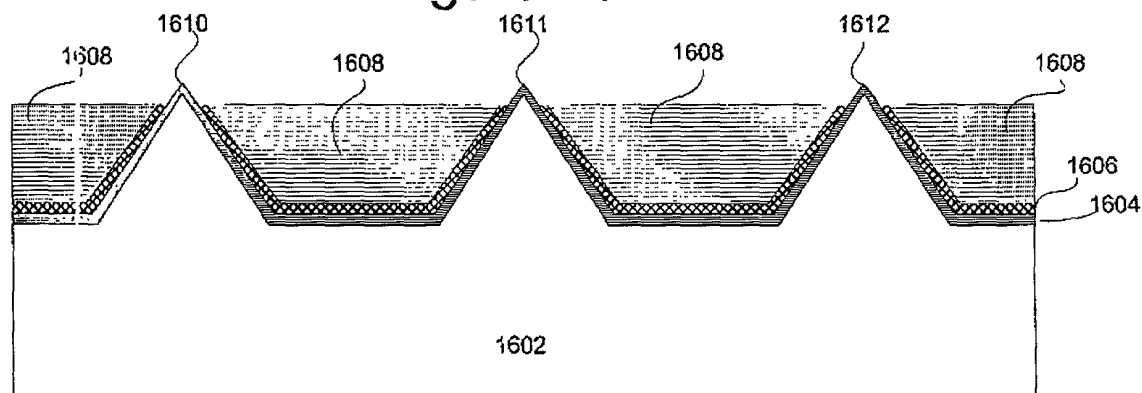


Figure 16E

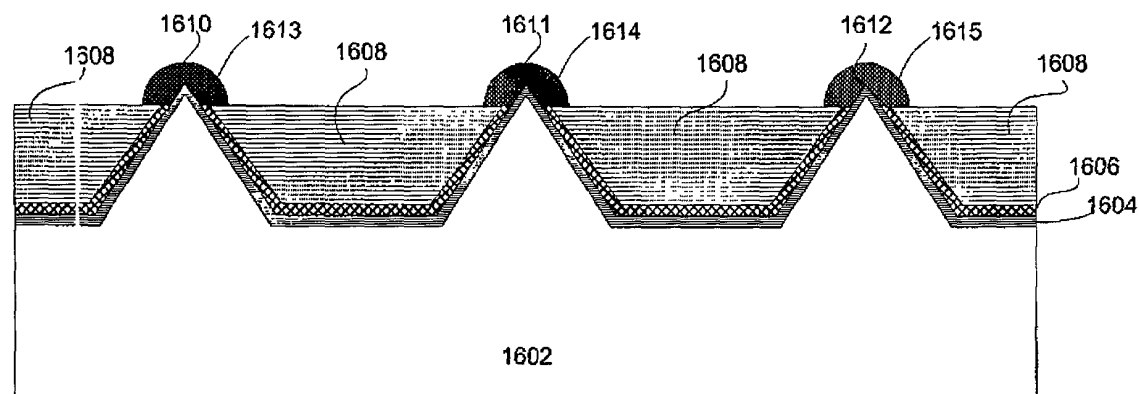


Figure 16F

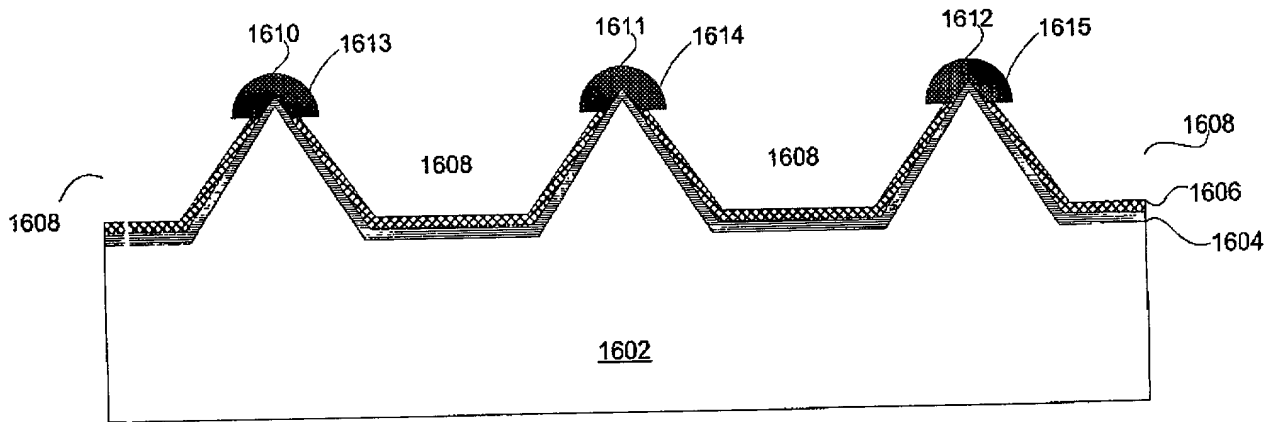


Figure 16G

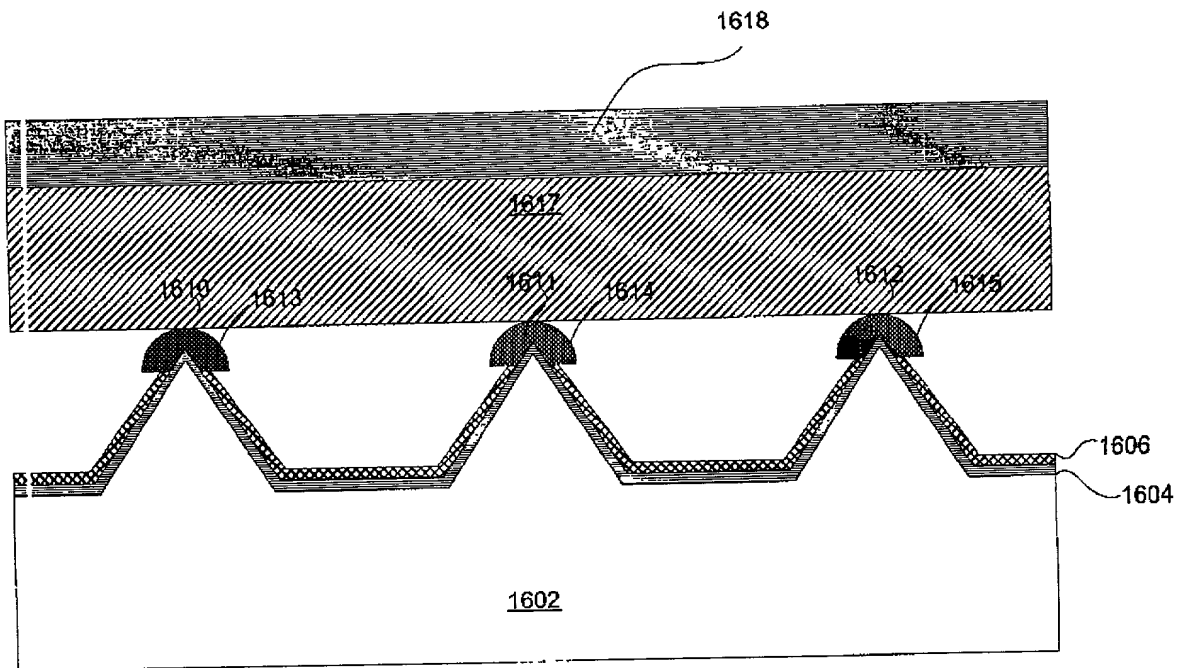


Figure 16H

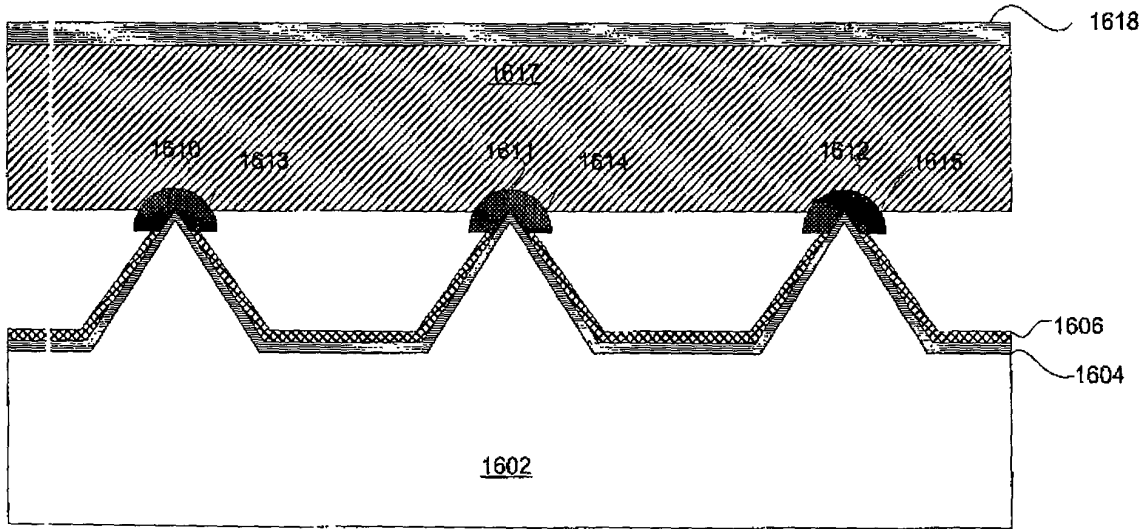


Figure 16I

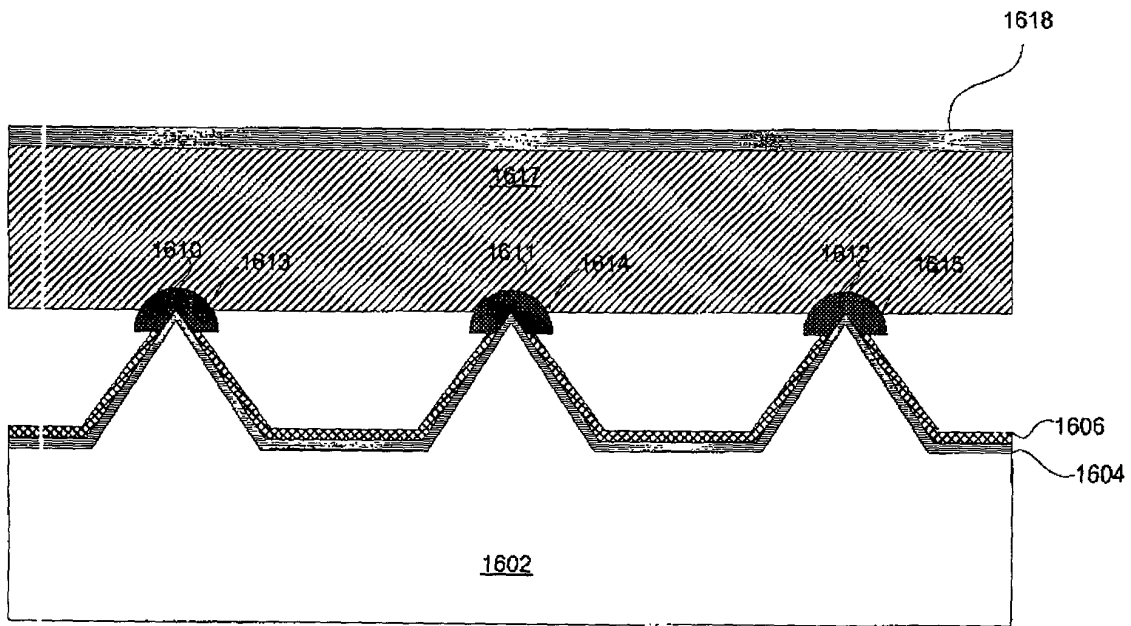


Figure 16J